

REMARKS

The Amendments

The Specification has been amended to correct obvious typographical and clerical errors.

Claims 17, 18, 20, 27, 29, 32-34, 39 and 40 are pending herein.

Claims 13-16, 19, 21, 26, 28, 30, 31, and 35-38 have been cancelled with this Amendment.

New claims 39 and 40 have been added to recite specific transgenic plants and seeds thereof. Support is found, e.g., in previous claims 29 and 31.

Claim 17 has been amended to adopt suggestions made by the Examiner. Support is found in previous claim 34. The remaining claims have been amended for better antecedent basis, so that they all comprise the limitations of amended claim 17.

Claim 18 has been amended to adopt the Examiner's suggestion that it be recited that the seed contains the heterologous genetic construct specified in claim 17.

Claim 20 has been amended to make it dependent on claim 18.

Claim 27 has been amended to make it dependent on claim 17 and specify that the plant is altered to increase its α -tocopherol: γ -tocopherol ratio. Support is found, e.g., in the first full paragraph of page 7 of the specification.

Claim 29 has been amended to add broccoli to the list of transformed plants. Support is found, e.g., in Table 2 on page 31.

Claims 32 and 33 have been amended to cancel limitations for better antecedent basis.

Claim 34 has been amended to recite limitations corresponding to claim 17.

No new matter has been added.

The Telephone Interviews

Examiner Kallis and Examiner Grunberg are thanked for the courtesy of telephone interviews on November 12, November 20, and December 4, 2008. Previous restriction requirements and claim elections were discussed and it was agreed that claims to embodiments in which α -tocopherol was increased would be examined. In addition, claim limitations for allowance of the claims were discussed, and the Examiners made a number of suggestions for amending the claims, which have been adopted. The limitation regarding specifying at least two SAM binding domains was discussed, and the undersigned advised that a large number of SAM binding domain consensus sequences for plant methyltransferases were disclosed in Table II, pages 420-421 of Kagan and Clarke (1994), "Widespread Occurrence of Three Sequence Motifs in Diverse S-Adenosylmethionine-Dependent Methyltransferases Suggests a Common Structure for These Enzymes," Arch. of Biochem. and Biophys. 310(2):417-427 (of record), and thus these sequences are known to the art, such that further characterization of these consensus sequences in the claims is unnecessary.

Examiner Kallis advised that this Response should be submitted based on the deadline set forth in the Office Action of November 4, 2008, and that the amendments should be made to the claims set that was presented herein in the Preliminary Amendment filed September 30, 2003.

It is believed the present Amendment accurately incorporates the suggestions made by the Examiners, and that the claims should be allowable. If this is not the case, it is respectfully requested that Examiner Kallis contact the undersigned by telephone to discuss the amendments.

The following remarks briefly address rejections that were made in the first Office Action on the merits.

The Previous Rejections under Section 112

Applicants wish to emphasize that the above claims meet the written description and enablement requirements of Section 112, first paragraph. Specifically, the consensus sequences provided in Figure 1 and the limitations incorporated into the amended claims to recite particular structural features (consensus sequences), **meet the second prong of the *Eli Lilly* test.**

Further, the claims recite functional as well as structural features, and thus exclude inoperative embodiments not having gamma methyltransferase activity.

Moreover, the disclosure, beginning with the first full paragraph on page 9 through the last full paragraph of page 10, fully describes and enables the identification of other plants having the claimed sequences capable of providing altered tocopherol profiles in transformed plants. In addition, Table 2 on pages 30-31 provides a list of specific plants and the altered tocopherol profiles in these plants achievable by insertion of the nucleic acid sequences described and claimed herein.

As further evidence of the fact that the consensus sequences provide a functional structure, it is pointed out that these consensus features are present in sequences listed in Dupont U.S. Patent Publication No. 20070199096, which specifies sequences for gamma tocopherol methyltransferase in its claims, namely sequences 12, 14, 16, 20, 22, 26, 28 and 30 for soybean, corn, lotus, Brassica napus, Perilla and Arabidopsis.

These consensus features are also present in sequences listed in Monsanto U.S. Patent Publication No. 20030154513 (now Patent No. 7,244,877), which also specifies sequences for gamma tocopherol methyltransferases, namely sequences 18, 19, 21, 22, 23, 24, 25, 26, 27, 28, 31, 33, 34, 35, 36, 37, 38 and 41, for *Arabidopsis thaliana*, *Zea mays*, *Gossypium hirsutum*, *Cuphea pulcherrima*, *Brassica napus*, *Lycopersicon esculentum*, *Glycine max*, *Sorghum bicoor*, *Tagetes erecta*, and *Synechocystis*. These cases were filed after the filing date hereof.

The Previous Rejections Under Section 102

Claims 17-18 have been rejected under 35 U.S.C.102(e) as being anticipated by U.S. Patent 6,429,356 (Shewmaker et al.) for its teaching of altered profile of tocopherols in the seeds of transformed plant. However, this reference fails to teach the limitations now present in claims 17 and 18. Specifically, it does not teach a genetic construct comprising a plant γ -tocopherol methyltransferase coding sequence, wherein the coding sequence encodes the expression of a γ -tocopherol methyltransferase protein that (1) has at least two SAM binding domain consensus sequences; that (2) when aligned with SEQ ID NO:4 has amino acid sequences corresponding to the following motifs in SEQ ID NO: 4: WGDHMHG at residues 79-86, GCGIGGS at residues 134-141, ESGEHMP at residues 202-208, and TWCHR at residues 231-235; and that (3) will increase the level of α -tocopherol present in a plant when expressed in a plant. It is noted that the remaining claims pending were previously deemed free of the prior art.

The Previous Double Patenting Rejection

It is noted that a previous Obviousness-type Double Patenting Rejection was made, in response to which Applicants previously submitted a Terminal Disclaimer signed by the undersigned as Attorney for Applicant. However, in view of the fact that a new Power of Attorney was subsequently required and submitted, in order to ensure that the Terminal Disclaimer is proper, a new Terminal Disclaimer together with a Statement Under 37 C.F.R. Section 3.73(b) is submitted herewith.

In view of the foregoing arguments and amendments, it is respectfully requested that all pending rejections be withdrawn and that the present claims be allowed.

Conclusion

All claims pending herein appearing to be in condition for allowance, passage to issuance is respectfully requested. This amendment is accompanied by a Terminal Disclaimer and a Request for Extension of Time (one month) together with the required fee. It is believed that this response does not necessitate the payment of any additional fees under 37 C.F.R. 1.16-1.17. If the amount authorized is incorrect, however, please deduct from Deposit Account No. 07-1969 the appropriate fee for this submission and any extension of time required.

Respectfully submitted,

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